

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 37 (90/004,723)

Paper No. 37 (09/135,459)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEFF M. TESSIER and WOODWARD G. BROWN

Appeal No. 2000-1621
Reexamination No. 90/004,723 and
Reissue Application No. 09/135,459

HEARD: Dec. 6, 2000

Before GARRIS, WALTZ and DELMENDO, Administrative Patent Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal which involves claims 1 through 7, 9 through 16 and 23 through 37. These claims are before us in the context of a merger between the above identified reexamination proceeding and the above identified reissue application. The only other claim remaining in these merged proceedings, which is claim 8, has been characterized by the examiner as being allowed.

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The subject matter before us on this appeal relates to a method and apparatus for laser cutting a pattern through a wall of a hollow metal workpiece, for example, in manufacturing a medical implant. This appealed subject matter is adequately illustrated by independent claims 1, 7 and 26, a copy of which taken from the appellants' brief is appended to this decision.

The references relied upon by the examiner in the rejections before us are:

Bove et al. (Bove)	4,001,543	Jan. 4, 1977
Muncy et al. (Muncy)	4,931,615	June 5, 1977
Ushimi (Japan) ¹	52-85800	July 16, 1977
Tanaka et al. (Tanaka) (Japan) ¹	59-82168	May 12, 1984
Nakano (Japan) ¹	2-165885	June 26, 1990
Shimojo et al. (Shimojo)(Japan) ¹	2-192889	July 30, 1990

Claims 1, 4, 26, 30 and 33 are rejected under 35 U.S.C.

§ 102(b) as being anticipated by Ushimi.

¹ Our understanding of these references is based upon the translations of record.

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Claims 2, 3, 15², 16², 23 through 25, 27 through 29, 31, 32 and 34 through 36 are rejected under 35 U.S.C. § 103 as being unpatentable over Ushimi in view of Muncy.

Claim 5 is rejected under 35 U.S.C. § 103 as being unpatentable over Ushimi.

Claim 6 is rejected under 35 U.S.C. § 103 as being unpatentable over Ushimi in view of Shimojo.

Claims 7, 10 through 12, 14 and 37 are rejected under 35 U.S.C. § 103 as being unpatentable over Tanaka in view of Nakano and Ushimi.

Claim 9 is rejected under 35 U.S.C. § 103 as being unpatentable over Tanaka, Nakano and Ushimi and further in view of Bove.

Claim 13 is rejected under 35 U.S.C. § 103 as being unpatentable over Tanaka, Nakano and Ushimi and further in view

² It is apparent that the examiner has erroneously included dependent apparatus claims 15 and 16 (which ultimately depend from independent apparatus claim 7) in this rejection that otherwise involves only method claims. We correct the examiner's error by herewith summarily vacating this § 103 rejection of claims 15 and 16 as being unpatentable over Ushimi in view of Muncy.

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of Shimojo.

Finally, claims 15 and 16 are rejected under 35 U.S.C. § 103 as being unpatentable over Tanaka, Nakano and Ushimi and further in view of Muncy.

As a preliminary matter, we observe that certain of the appealed claims have been separately grouped and argued by the appellants and these claims will be separately considered as appropriate in our opinion below.

Rather than reiterate the respective positions advocated by the appellants and by the examiner concerning the above noted rejections, we refer to the brief and reply brief and to the answer respectively for a complete exposition thereof.

OPINION

We will sustain each of the outstanding rejections before us on this appeal. Our reasons follow.

Prior to assessing these rejections, it is particularly appropriate in this case to emphasize the proper standard for interpreting the claims on appeal. The proper standard of claim interpretation for the Patent and Trademark Office in this merger of reexamination and reissue proceedings is to

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give the claims their broadest reasonable interpretation consistent with the specification and to avoid reading limitations of the specification into the claims. See In re Yamamoto, 740 F.2d 1569, 1571, 222 USPQ 934, 936-937 (Fed. Cir. 1984). Also see In re Morris, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997).

THE REJECTIONS OF METHOD CLAIMS 1 THROUGH 6 AND 23 THROUGH 36

Concerning the examiner's § 102 rejection, the appellants argue that the pattern forming step (i.e., "cutting" with a laser) of independent method claims 1 and 26 distinguishes over the hole forming step (i.e., "drilling" with a laser) of Ushimi. According to the appellants, "[a] pattern is not a simple drilled hole" (brief, page 9). Further, the appellants contend that their position is supported by typical dictionary definitions of the claim term "pattern," copies of which (i.e., definitions from two dictionaries) are attached to the reply brief. As additional support for their position, the appellants urge "[t]he meaning that the patentees [i.e.,

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appellants] applied to "pattern" is illustrated by pattern 6 in Figs. 2A and 2C" (brief, page 8).

The appellants above noted position is not well taken. From our perspective, Ushimi's "hole" falls within the broad definition of "pattern" which the appellants' themselves have provided. This is because a "pattern" is broadly defined as, for example, a mechanical or distinctive form which would encompass the perforated form resulting from Ushimi's step of providing his workpiece with a "hole."

In addition, it is important to emphasize that nothing in the appellants' specification excludes from the claim term "pattern" a hole of the type formed during Ushimi's laser-drilling step. That is, while the particular shape of the hole or pattern shown in Figures 2A and 2C of the appellants' drawing is clearly encompassed by the here claimed term "pattern," it is similarly clear that the claims under consideration contain no language which limits the claim term "pattern" to a specific shape of any kind much less the particular shape of hole or pattern shown in these figures. Because the claim language is not so limiting, the claim

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interpretation urged by the appellants (i.e., wherein the claim term "pattern" is considered to exclude Ushimi's hole) is possible only by the impermissible practice of reading limitations from the specification into the claims.

In re Yamamoto, id.

In light of the foregoing, we are unpersuaded by the appellants' argument that the pattern cutting feature of independent method claims 1 and 26 distinguishes over Ushimi.

The appellants also argue that the examiner's anticipation rejection is improper because "Ushimi is distinguished by limitations in all of the Appellants' claims to a method or apparatus in which the workpiece is filled with liquid coolant at the place where cutting is occurring . . . [whereas] Ushimi discloses filling the workpiece with a spray or mist, not flowing water") (reply brief, page 4). In this regard, the appellants urge that "Ushimi twice describes the coolant as 'water (16) that has been sprayed from a spray nozzle' . . . (Translation, page 4, lines 9-12)" and that, taking "notice of dictionary definitions of 'spray,' submitted herewith [,] . . . 'spray'

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connotes a dispersion of liquid particles, as distinguished from a solid flow of liquid" (reply brief, page 5).³ This argument is not convincing for a number of reasons.

In the first place, the language of the argued method claims on appeal does not require that the recited coolant be "a solid flow of liquid" as the appellants seem to believe. Indeed, language such as "the coolant flows through and contacts at least a portion of the inner surface of the workpiece" (emphasis added) in appealed independent method claim 1 plainly encompasses embodiments wherein the coolant contacts less than all of the workpiece inner surface and thus need not be a solid flow of liquid. Even at the inner surface periphery where cutting is occurring, the claim language simply requires the coolant to contact this periphery but does

³ It is the appellants' implicit presumption that the original foreign language disclosure of Ushimi would convey a meaning which corresponds to the English language dictionary definitions submitted with the reply brief. We cannot determine from the record before us whether the appellants' presumption is correct. However, even if this presumption is correct, it does not render persuasive the concomitant arguments that are built upon it as explained in more detail below.

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not require this contact to be in the form of "a solid flow of liquid."

Furthermore, we find nothing in the subject specification (1) which limits the appellants' invention to only embodiments wherein the coolant is "a solid flow of liquid" or (2) which excludes from the appellants' invention an embodiment wherein the coolant is a flow of sprayed droplets. For all that can be determined from the appellants' disclosure, the opening 33 (see Figure 3A), via which the coolant is passed into the workpiece, might well be incapable of forming a coolant-flow which does not include spray droplets. Under these circumstances, we regard it as appropriate to interpret the claims under consideration as encompassing rather than excluding embodiments in which the coolant-flow includes spray droplets that are said by the appellants to be disclosed by Ushimi.

The appellants' above noted position is also not well taken because the definitions of "spray" are not limited to only liquid particles or droplets as the appellants would have

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us believe. For example, these definitions include a jet of liquid which, in our view, may comprise a solid stream as well as droplets or particles of liquid. It follows that Ushimi's disclosed "spray" does not exclude the appellants' argued distinction of liquid in the form of a solid flow. Indeed, Figure 2 of Ushimi appears to show water 16 in the form of a solid flow (although the claims here under review do not require such a flow) and plainly shows this water at the entire periphery of the workpiece inner surface at the place where cutting is occurring as required by the appellants' method claim.

The appellants further argue that Ushimi does not anticipate those appealed method claims which are specifically directed to a method for manufacturing a medical implant such as appealed independent claim 26. For the reasons expressed above, however, all of the steps recited in method claim 26 are performed by the method of Ushimi. As a result, it is reasonable to conclude that the products obtained from these identical method steps necessarily must also be identical. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

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It follows that Ushimi's product may be properly characterized as a medical implant to the same extent that the identical product of appealed claim 26 may be characterized as a medical implant. Stated otherwise, if the appellants ultimately obtained a different product via a method of the type recited in appealed claim 26, it must be due to some step not recited in this claim. Compare In re Sussman, 141 F.2d 267, 269-270, 60 USPQ 538, 541 (CCPA 1944). We do not consider it appropriate to regard method claim 26 as distinguishing over Ushimi by virtue of some unknown step that has not been claimed.

Finally, the appellants contend that method claims 30 through 36 require the liquid coolant to flow under pressure through the workpiece and accordingly distinguish over the method of Ushimi. Concerning this issue, the appellants emphasize that Ushimi's disclosure is incompatible with this pressure requirement because it refers to "suction opening (17)" (see page 4 of the translation copy). We cannot agree.

It is first appropriate to clarify that neither the here argued claims nor the subject specification specify whether

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the referenced pressure is above or below atmospheric (cf., gage pressure and absolute pressure). Plainly, therefore, these claims do not distinguish over the Ushimi reference regardless of whether a positive or negative pressure exists inside the workpiece of Ushimi. Perhaps more importantly, the here claimed requirement of pressure (regardless of whether the pressure is above or below atmospheric pressure) is not inconsistent with Ushimi's disclosure any more than it is inconsistent with the appellants' disclosure. In this latter regard, we point out that both Ushimi and the appellants effect coolant flow via a pump (see element 19 in Figure 2 of Ushimi's drawing and element 9 in Figure 1 of the appellants' drawing) which includes an upstream suction side and a downstream discharge side. Likewise in each case, the coolant flowing from the downstream discharge side of the pump in the apparatus of both Ushimi and the appellants is under pressure and thereby caused to flow into and through the workpiece. For these reasons, the pressure limitations of dependent method claims 30 through 36 do not distinguish over the method of Ushimi.

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In light of the foregoing, it is our determination that both the § 102 and the § 103 rejections made by the examiner against the method claims on appeal are free of reversible error notwithstanding a thorough consideration of the opposing arguments made by the appellants against these rejections. We shall sustain, therefore, the § 102 rejection of claims 1, 4, 26, 30 and 33 as being anticipated by Ushimi, the § 103 rejection of claims 2, 3, 23 through 25, 27 through 29, 31, 32 and 34 through 36 as being unpatentable over Ushimi in view of Muncy, the § 103 rejection of claim 5 as being unpatentable of Ushimi and the § 103 rejection of claim 6 as being unpatentable over Ushimi in view of Shimojo.

THE REJECTIONS OF APPARATUS CLAIMS 7, 9 THROUGH 16 AND 37

The appellants argue that the apparatus claims on appeal are patentable over the references applied thereagainst for the same reasons discussed above with respect to the appealed method claims. As previously explained, however, these arguments are unpersuasive.

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In addition, the appellants argue that it would not have been obvious to combine the applied references in such a manner as to result in the here claimed apparatus. However, the appellants have not identified with any reasonable specificity any error in the examiner's rationale for combining these references. Instead, the appellants simply refer to alleged deficiencies of the references considered individually (e.g., see the discussion on pages 14 and 15 of the brief concerning the Tanaka, Nakano and Ushimi references). It is well settled that the test for obviousness is what the combined teachings of the references would have suggested to those of ordinary skill in the art and that one cannot show nonobviousness by attacking references individually where, as here, the rejections are based on combinations of references. In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881-882 (CCPA 1981). These legal principles compel us to regard as not convincing the appellants' arguments directed to the applied references taken individually.

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As a consequence, we also will sustain the § 103 rejections of the appealed apparatus claims, namely, the rejection of claims 7, 10 through 12, 14 and 37 as being unpatentable over Tanaka in view of Nakano and Ushimi, the rejection of claim 9 over these references and further in view of Bove, the rejection of claim 13 over the first three mentioned references and further in view of Shimojo and the rejection of claims 15 and 16 as being unpatentable over the first three mentioned references and further in view of Muncy.

SUMMARY

We have sustained each of the § 102 and § 103 rejections before us on this appeal.

The decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

BRADLEY R. GARRIS)
Administrative Patent Judge)

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THOMAS A. WALTZ
Administrative Patent Judge

ROMULO H. DELMENDO
Administrative Patent Judge

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APPENDIX

1. A method for laser cutting a predetermined pattern through a wall of a hollow metal workpiece, comprising:

pumping liquid coolant through a workpiece mounting means and the metal workpiece while cutting the pattern with a laser cutting means as the coolant flows through and contacts at least a portion of the inner surface of the workpiece including the entire periphery of said inner surface at the place where cutting is occurring, to flush [out] the majority of dross that forms within said workpiece during cutting out through said workpiece with said flowing coolant, such that adherence of the dross to the inner surface of the workpiece is minimized or eliminated.

7. An apparatus for laser cutting a pattern through a wall of a hollow metal workpiece, comprising:

a laser means capable of cutting metal;

a laser table;

a rotary table means anchored to the machine table, wherein one end of the rotary table means includes a hose coupling means to accept a hose through which coolant is pumped and the other end includes

proximal center fixture designed to accept one end of a hollow metal workpiece, the proximal center fixture being the workpiece during laser cutting;

a distal tail center means anchored to the machine table at a distance from the rotary table means, wherein one end of the distal tail center means includes a cylinder head, which is aligned with the proximal center fixture, designed to accept the opposite end of the hollow metal workpiece;

a pump and associated coolant tank to provide a continuous flow of liquid coolant through the [rotary table] hose coupling means and the hollow metal

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workpiece, said pump, said hose coupling means and
said hose being capable of providing sufficient
coolant flow for coolant to contact the entire periphery
of the inner surface of said workpiece directly
adjacent where cutting is occurring; and

a trough means for collecting and recycling liquid
coolant exiting the hollow metal workpiece.

26. A method for manufacturing a medical implant by
laser cutting a predetermined pattern through a wall of a
hollow metal workpiece, comprising:

- cutting said pattern through said wall from the
outside with a laser "cutting means", and
- pumping liquid coolant through a workpiece
mounting means and through said workpiece throughout
said cutting, said coolant flowing through said
workpiece and contacting its inner surface directly
adjacent and opposite where the cutting is occurring
throughout said flush the majority of dross that
forms within said workpiece during cutting out
through said workpiece with said flowing coolant, such
that adherence of the dross to the inner surface of
the workpiece is minimized or eliminated.